

PATENT COOPERATION TREATY

PCTINTERNATIONAL SEARCH REPORT
(PCT Article 18 and Rules 43 and 44)

| | | |
|---|---|---|
| Applicant's or agent's file reference 53389-233 | FOR FURTHER ACTION | see Form PCT/ISA/220 as well as, where applicable, item 5 below |
| International application No. PCT/CA2005/000019 | International filing date (<i>day/month/year</i>) 07 January 2005 (07-01-2005) | Priority date (<i>day/month/year</i>) 09 January 2004 (09-01-2004) |
| Applicant E.I. DU PONT CANADA COMPANY ET AL | | |

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 7 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☒ Certain claims were found unsearchable (see Box No. II).

3. ☐ Unity of invention is lacking (see Box No. III).

4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows :

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ as selected by this authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☒ none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of the first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons :

1. ☐ Claim Nos. :
because they relate to subject matter not required to be searched by this Authority, namely :

2. ☒ Claim Nos. : 1, 7-10, 12, 13, 19-22, 24-31, 37-40 and 42-47.
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically :

see FURTHER INFORMATION sheet (page 7) PCT/ISA/210

3. ☐ Claim Nos. :
because they are dependant claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows :

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claim Nos. :

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim Nos. :

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA2005/000019

A. CLASSIFICATION OF SUBJECT MATTER

IPC⁷ C08L 23/12, 23/26, 23/16, 51/06, 33/06; C08J 7/06, 5/18; C09D 123/12; C23C 16/12.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁷ C08L 23/12, 23/26, 23/16, 51/06, 33/06; C08J 7/06, 5/18; C09D 123/12; C23C 16/12.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used)

Canadian Patent Database, West and Delphion ("propylene", "ethylene", "butene", "polypropylene", "graft", "anhydride", "maleic", "acid", "ester", "metal", "film", "multi-layer", "wrap", "adhesion")

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No(s). |
|-----------|---|--|
| X Y | US 2003/0130429 (ATOFINA) 10 July 2003 (full document) | 1-6, 8, 11 and 12 1-47 |
| X Y | US 2003/0092844 (ATOFINA) 15 May 2003 (full document) | 1-6, 9-18, 21-36, 39-47 1-47 |
| X Y | WO 01/98386 (ATOFINA) 27 December 2001 (full document) | 1-6, 9-18, 21-36, 39-47 1-47 |
| X Y | US 6017615 (HUNTSMAN POLYMERS CORP) 25 January 2000 Col. 27(lines 1-32); claims 11 and 12. | 1-6, 11-18, 20, 23-36, 38, 41-47 1-47 |

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

23 March 2005 (23-03-2005)

Date of mailing of the international search report

12 May 2005 (12-05-2005)

Name and mailing address of the ISA/CA
Canadian Intellectual Property Office
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International application No.
PCT/CA2005/000019

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No(s). |
|-----------|--|---|
| X | CA 2186009 (BP CHEMICALS PLASTEC GMBH; BOREALIS GMBH) 2 November 1995 | 1-4, 8, 11-16, 20, 23, 24, 27, 31-34, 38, 41-43 |
| Y | Claims 18-25. | 1-47 |
| X | US 5272210 (CHEVRON RESEARCH AND TECHNOLOGY COMPANY) 21 December 1993 | 1-4, 8 and 11 |
| Y | (full document) | 1-47 |
| X | US 6503635 (EXXON MOBIL OIL CORP) 7 January 2003 (full document) | 1-3, 12-15, 24-33, 41-47 |
| Y | (cited in the application) | 1-47 |
| Y | JP 1282207: UBE INDUSTRIES 14 November 1989 (abstract) | 1-6, 8, 9 and 11 |
| Y | US 5235149 (SOCIETE ALSACIENNE D'ALUMINIUM) 10 August 1993 Col.5(lines 38-48). | 1-47 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/CA2005/000019

| Patent Document Cited in Search Report | Publication Date | Patent Family Member(s) | Publication Date |
|---|---------------------|----------------------------|---------------------|
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FURTHER INFORMATION: Continuation of Box No. II.2.

Claims 1, 7-10, 12, 13, 19-22, 24-31, 37-40 and 42-47 relate to a polymer defined by a broad term, namely "alkene polymer". This expression relates to a large number of possible alkene polymers since said polymer is defined solely by reference to a desirable characteristic. The claims cover all possible alkene polymers whereas the application provides support within the meaning of Article 5 PCT for only a very limited number of such polymers. Due to the multiple meanings that can be arrived at for this expression, a meaningful search over the whole of the claimed scope for the aforementioned claims is impossible. Therefore, the search has been limited to alkene polymers having propylene monomers as described on pages 5(line 23) to 6(line 1) and in examples I-XXX (see Tables 6-9).